UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *12/12/03, 6/21/04*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This is a first office action in response to application for patent filed on 12/12/03. Claims 1-26 are presented for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/12/03 and 06/21/04 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Furthermore, Applicants are requested to update the cross-references to related references to include application number and/or patent number.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1- 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ricciulli US patent 6,473,405 in view of Phillipi et al. hereinafter Phillipi US publication

Number 2004/0044761.

As per claim 1, Ricciulli teaches a method for analyzing routes to a destination

address space, comprising: identifying a plurality of paths, each path beginning at a

different source and terminating at a destination address space (col. 3 lines 50-59; col.

2 lines 38-51); identifying a plurality of nodes for each of the plurality of paths (fig 3);

determining a path performance for each of the at least two paths, wherein the path

performance is based on a path performance from the source of each path (col. 2 lines

63-67; col. 3 lines 34-39; col. 4 lines 50-64); and analyzing the at least two paths to the

destination address space (col. 4 lines 9-26; alternate path with measurable

communication cost). However, Ricciulli fails to teach identifying at least one

convergence point, wherein the convergence point is a common node for the at least

two paths and associating the convergence point with the destination address space.

Phillipi is directed to a system for broadband network optimization, which comprises

these features (see par 0023, 0029, 0031 and 0068). It would have been obvious to one

of ordinary skill in the art at the time of the invention to combine Phillipi's convergence

point to Ricciulli on-demand overlay routing to optimize connection. One ordinary skill in

the art at the time of the invention would be motivated to do so to maintain and

maximize network performance (par 0003).

As per claim 2, the combination Ricciulli-Phillipi teaches the method of claim 1, wherein

analyzing the at least two paths to the destination address space, comprises selecting a route to the destination address space based upon the relative path performances for the at least two paths (Ricciulli, col. 4 lines 9-25 and 50-64).

As per claim 3, the combination teaches the method of claim 2, wherein the at least two paths include a first path and a second path and wherein selecting a route to the destination address space based upon the relative path performances for the at least two paths comprises selecting the first path, further comprising: determining a current path performance for the first path; comparing the current path performance (see col. 2 lines 37-50) to the path performance for the first path; and based upon the comparison, selecting the second path as the route to the destination address space (fig 3; col. 4 lines 9-25 and 50-64; an alternate path is chosen and an improved path is created).

As per claim 4, Ricciulli teaches the method of claim 1, wherein analyzing the at least two paths to the destination address space, comprises determining diversity for the at least two paths (Ricciulli discusses alternate path and the heterogeneous nature of the Internet col. 1 lines 35-51 and col. 4 lines 9-25).

As per claim 5, Ricciulli teaches the method of claim 4, further comprising analyzing path length for the at least two paths (Ricciulli discusses alternate paths with measurable communication cost see col. 4 lines 20-25).

As per claim 6, Ricciulli teaches the method of claim 1, wherein analyzing the at least

two paths to the destination address space provides network topology information that

is used in connection with network planning activities (col. 3 lines 59-65; col. 6 lines 54-

60).

As per claim 7, the combination Ricciulli-Phillipi teaches the method of claim 1, wherein

analyzing the at least two paths to the destination address space provides information

used to evaluate distance and volume for a plurality of destinations, including the

destination address space (Ricciulli, col. 7 lines 10-30; see Phillipi par 0015).

As per claim 8, Ricciulli teaches the method of claim 1, further comprising: periodically

determining the path performance for each of the at least two paths (fig 2; col. 7 line 40

to col. 8 line 10).

As per claim 9, Ricciulli-Phillipi combination teaches the method of claim 1, further

comprising: determining an aggregated address space that includes the destination

address space and that is associated with the convergence point (see Phillipi par 0021,

0031, 0101).

As per claim 10, the combination teaches determining an aggregated address space

that includes the destination address space, that is associated with multiple

convergence points and that shares a common next hop (see Phillipi par 0021, 0031,

0101; par 0031 and 0068).

As per claim 11, the combination teaches using an active path trace probe (Phillipi, par

0029 and 0101).

As per claim 12, the combination teaches the method of claim 1 wherein identifying a

plurality of paths comprises using a passive flow analyzer (Phillipi, par 003, 0054,

0101).

As per claim 13, the combination teaches the method of claim 1, wherein the at least

two paths include a first path, further comprising: associating the convergence point with

additional destination address spaces; obtaining path performance information for the

destination address space and the additional destination address spaces using a single

measurement of the first path (see Phillipi, par 0021, 0031 and 0101).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

Claims 14- 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Ricciulli US patent 6,473,405.

As per claim 14, Ricciulli teaches a method for analyzing routes to a destination address space, comprising: identifying a plurality of paths, including a first path that begins at a first source and terminates at the destination address space and a second path that begins at a second source and terminates at the destination address space (col. 3 lines 50-59; col. 2 lines 38-51); identifying a first proxy point for the first path and a second proxy point for the second path, wherein the first proxy point is an intermediate point between the first source and the destination address space and the second proxy point is an intermediate point between the second source and the destination address space (see col. 2 lines 43-51; intermediate nodes (proxy points) are referred to as overlay network); associating the first proxy point and the second proxy point with the destination address space (col. 2 lines 52-61); determining a path performance for the first path and the second path, wherein the path performances are based on a path performance from the source of each path to the proxy point for each path (col. 2 lines 63-67; col. 4 line 50 to col. 5 line 16); and analyzing the first path and the second path (col. 4 lines 9-26; alternate path with measurable communication cost).

As per claim 15, Ricciulli teaches the method of claim 14, wherein analyzing the first path and the second path comprises: selecting a route to the destination address space based upon the relative path performances for the first path and the second path (col. 4 lines 9-25 and 50-64).

As per claim 16, Ricciulli teaches the method of claim 14, wherein a portion of the first path from the first source to the first proxy point and a portion of the second path from the second source to the second proxy point are diverse (Ricciulli discusses alternate path and the heterogeneous nature of the Internet col. 1 lines 35-51 and col. 4 lines 9-25).

As per claim 17, Ricciulli teaches the method of claim 14, further comprising: determining an aggregated (collection) address space (col. 1 lines 35-52) that includes the destination address space and is associated with the first proxy point and the second proxy point.

As per claim 18, Ricciulli teaches the method of claim 14, wherein the first source is associated with a router (col 2 lines 38-51).

As per claim 19, Ricciulli teaches the method of claim 14, wherein the first source is associated with a single entity (col. 3 lines 50-62).

As per claim 20, Ricciulli teaches the method of claim 14, wherein the first source is associated with a location (fig 1; col. 3 lines 50-59; col. 5 lines 34-47).

As per claim 21, Ricciulli teaches the method of claim 14, wherein the first proxy point

and the second proxy point are located within a diverse portion of a network (col. 2 lines 43-51; col. 1 lines 35-51).

As per claim 22, Ricciulli teaches the method of claim 14, wherein analyzing the first path and the second path comprises determining diversity for the first path and the second path (Ricciulli discusses alternate path and the heterogeneous nature of the Internet col. 1 lines 35-51 and col. 4 lines 9-25).

As per claim 23, Ricciulli teaches the method of claim 22, further comprising analyzing path length for the first path and the second path (Ricciulli discusses alternate paths with measurable communication cost see col. 4 lines 20-25).

As per claim 24, Ricciulli teaches the method of claim 14, wherein analyzing the first path and the second path provides network topology information and is used in connection with network planning activities (col. 3 lines 59-65; col. 6 lines 54-60).

As per claim 25, Ricciulli teaches the method of claim 14, wherein analyzing the first path and the second path provides information used to evaluate distance and volume for a plurality of destinations, including the destination address space (Ricciulli, col. 7 lines 10-30).

As per claim 26, Ricciulli teaches the method of claim 14, further comprising:

associating the first proxy point with additional destination address spaces; obtaining

path performance information for the destination address space and the additional

destination address spaces using a single measurement of the path performance for the

first path (col. 2 lines 63-67; col. 4 line 50 to col. 5 line 16).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Frantz B. Jean whose telephone number is 571-272-

3937. The examiner can normally be reached on 8:30-6:00 M-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Zarni Maung can be reached on 571 272 3939. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FRANTZ B. JEAN
PRIMARY EXAMINER

Frantz Jean